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NOTES AND COMMENTS

NEW WATER MITE (PROSTIGMATA: PARASITENGONA)—CHIRONOMID (DIPTERA) ASSOCIATIONS FROM OTSEGO LAKE, NEW YORK

Water mites complete six stages during their development. They are the egg, larva, nymphochrysalis (or protonymph), deutonymph, imagochrysalis (or tritonymph) and adult. The active post-larval instars, the deutonymphs and adults, are usually free-living forms which feed upon crustacea, small immature insects and insect eggs. In the majority of mites with known life histories, the larvae selectively seek out and attach to insects that serve as appropriate hosts. Documented hosts include members of the orders Hemiptera, Odonata, Coleoptera, Trichoptera and Diptera, especially of the family Chironomidae. These insect hosts provide nutrition for further development as well as an efficient mode of dispersal.

During a study of the mussel parasite, *Najadicola ingens* (Koenike) (Hygrobatoidea: Pionidae) in Otsego Lake, New York (Simmons and Smith, 1984), 3,239 aquatic insect imagos were examined for parasitic mites. The chironomid, *Ablabesmyia annulata* (Pentaneurini), constituted 83.5% of the total studied. Mite larvae belonging to the genus *Arrenurus* were removed from 26.5% of the midges of this species. They were located on the postero-ventral region of the thorax and on the ventral surfaces of the 1st and 2nd abdominal segments. In addition to members of the genus *Arrenurus,* mites of 12 other genera were identified on midges from a variety of chironomid genera.

These samples revealed eight new associations not previously reported by Smith and Oliver (1976), or in more recent literature. The following is a list of the new associations with the number of parasitized chironomid individuals from each genus indicated in parentheses: *Hydrodroma* (Hydrodromidae) from *Ablabesmyia* (Pentaneurini) (4); *Oxus* (Oxidae) from *Paratendipes* (Chironomini) (1); *Limnesia* (Limnesiidae) from *Cladopelma* (Chironomini) (1); *Unionicola* (Unionicolidae) from *Tribelos* (Chironomini) (1); *Piona* (Pionidae) from *Tribelos* (1); *Wettina* (Pionidae) from *Paralauterborniella* (Chironomini) (1); and *Forelia* (Pionidae) from *Cladopelma* (1), and *Tribelos* (1).

The determinations were left at the generic level due to the difficulty of identifying mite larvae to species without undertaking rearing experiments. Although these associations are new and have not been previously reported, none of them are unexpected in that larvae from these mite genera were known to parasitize midges from genera closely related to those listed here.

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